

# MNNR

MORBIDITY AND MORTALITY WEEKLY REPORT

- 37 Deaths Resulting from Firearmand Motor-Vehicle–Related Injuries — United States, 1968–1991
- 42 Abortion Surveillance: Preliminary Data
   United States, 1991
- Hantavirus Pulmonary Syndrome United States, 1993

Effectiveness in Disease and Injury Prevention

Deaths Resulting from Firearm- and Motor-Vehicle-Related Injuries — United States, 1968–1991

Injury is the leading cause of death for persons aged 1–44 years in the United States. More than half (55%) of all injury-related deaths are caused by motor vehicles and firearms (1). Although the number of deaths from motor-vehicle crashes has exceeded those from firearms, since 1968, differences in the number of deaths have declined: from 1968 through 1991, motor-vehicle-related deaths decreased by 21% (from 54,862 to 43,536) while firearm-related deaths increased by 60% (from 23,875 to 38,317) (1). Based on these trends, by the year 2003, the number of firearm-related deaths will surpass the number of motor-vehicle crashes, and firearms will become the leading cause of injury-related death (Figure 1). This report compares trends and patterns of deaths resulting from firearm- and motor-vehicle-related injuries in the United States from 1968 through 1991.

Information about firearm- and motor-vehicle-related injury deaths was obtained from mortality data files maintained by CDC's National Center for Health Statistics. Rates were calculated by using population estimates obtained from the U.S. Bureau of the Census.

From 1968 through 1991, the number of firearm-related deaths exceeded the number of motor-vehicle crash-related deaths every year in the District of Columbia and for 17 of the 24 years in Alaska. Before 1990, the number of firearm-related deaths exceeded that of motor-vehicle-related deaths in any year in no more than two states and the District of Columbia. In 1990, however, the number of firearm-related deaths equaled or exceeded motor-vehicle-related deaths in five states (Alaska, Louisiana, Maryland, New York, and Texas) and the District of Columbia, and in 1991, in seven states (California, Louisiana, Maryland, Nevada, New York, Texas, and Virginia) and the District of Columbia. In addition, in 1991, the number of motor-vehicle-related deaths exceeded the number of firearm-related deaths by 10% or less in eight states (Alaska, Florida, Georgia, Illinois, Michigan, Missouri, North Carolina, and Vermont) (Table 1, Figure 2). In 1991, the ratio of firearm-related deaths to motor-vehicle-related deaths was highest for the District of Columbia (5.21:1) and lowest for Hawaii (0.41:1) (Table 1).

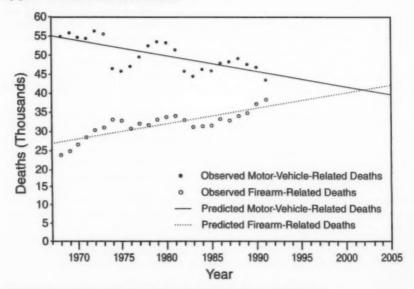
Firearm- and Motor-Vehicle-Related Injuries — Continued

In 1991, the age-adjusted death rate from motor-vehicle crashes was highest for black males (26.2 per 100,000 population) and was nearly equal to that for white males (24.2 per 100,000), 2.5 times that for white females (10.4 per 100,000), and 3.0 times that for black females (8.7 per 100,000).\* The age-adjusted death rate for firearms also was highest for black males (66.4 per 100,000) and was 3.2 times that for white males (20.7 per 100,000), 8.3 times that for black females (8.0 per 100,000), and 17.9 times that for white females (3.7 per 100,000). For both motor-vehicle— and firearm-related deaths, age-specific death rates were highest for persons aged 15–24 years (CDC, unpublished data, 1991).

Reported by: Div of Violence Prevention and Div of Unintentional Injury Prevention, National Center for Injury Prevention and Control; Office of Analysis and Epidemiology, National Center for Health Statistics, CDC.

Editorial Note: The findings in this report indicate that, since 1968, the number of motor-vehicle-related deaths in the United States has decreased while the number of firearm-related deaths has increased, and by the year 2003 firearm-related deaths may become the leading cause of injury-related death. These trends may reflect differences in the approaches to preventing motor-vehicle- and firearm-related injuries. In particular, reductions in the occurrence of motor-vehicle-related injuries have been

FIGURE 1. Observed and predicted firearm- and motor-vehicle-related injury deaths, by year — United States, 1968–2005\*



<sup>\*</sup>The lines are predicted numbers of deaths based on linear regression.

<sup>\*</sup>Data on other racial/ethnic groups are provided in a separate report (1).

Firearm- and Motor-Vehicle-Related Injuries - Continued

TABLE 1. Number, crude rates\*, and ratios of firearm- and motor-vehicle-related deaths, by decedents' state of residence — United States, 1991<sup>†</sup>

	Firearm-rela	ted deaths	Motor-vehicle-	related deaths	
State	No.	Rate	No.	Rate	Ratio
Alabama	928	22.7	1,225	30.0	0.76
Alaska	98	17.2	102	17.9	0.96
Arizona	696	18.6	814	21.7	0.86
Arkansas	483	20.4	639	26.9	0.76
California	5,064	16.7	5,009	16.5	1.01
Colorado	429	12.7	586	17.4	0.73
Connecticut	287	8.7	335	10.2	0.86
Delaware	53	7.8	106	15.6	0.50
District of Columbia	344	57.5	66	11.0	5.21
Florida	2,323	17.5	2,517	19.0	0.92
Georgia	1,377	20.8	1,486	22.1	0.94
Hawaii					
Idaho	57	5.0	140	12.3	0.41
	145	14.0	252	24.3	0.58
Illinois	1,574	13.6	1,667	14.4	0.94
Indiana	722	12.9	1,047	18.7	0.69
lowa	241	8.6	503	18.0	0.48
Kansas	344	13.8	440	17.6	0.78
Kentucky	605	16.3	821	22.1	0.74
Louisiana	1,101	25.9	869	20.4	1.27
Maine	123	10.0	196	15.9	0.63
Maryland	708	14.6	708	14.6	1.00
Massachusetts	307	5.1	614	10.2	0.50
Michigan	1,498	16.0	1,513	16.2	0.99
Minnesota	351	7.9	598	13.5	0.59
Mississippi	614	23.7	812	31.3	0.76
Missouri	942	18.3	1,023	19.8	0.92
Montana	144	17.8	181	22.4	0.80
Nebraska	169	10.6	300	18.8	0.56
Nevada	333	25.9	272	21.2	1.22
New Hampshire	83	7.5	153	13.8	0.54
New Jersey	428	5.5	857	11.0	0.50
New Mexico	288	18.6	431	27.8	0.67
New York	2,515	13.9	2,226	12.3	1.13
North Carolina	1,265	18.8	1,407	20.9	0.90
North Dakota	45	7.1	98	15.4	0.90
Ohio		11.7	1,656	15.1	0.48
	1,284				
Oklahoma	503	15.8	680	21.4	0.74
Oregon	367	12.6	500	17.1	0.73
Pennsylvania	1,302	10.9	1,723	14.4	0.76
Rhode Island	55	5.5	93	9.3	0.59
South Carolina	619	17.4	897	25.2	0.69
South Dakota	75	10.7	146	20.8	0.51
Tennessee	1,003	20.3	1,161	23.4	0.86
Texas	3,727	21.5	3,229	18.6	1.15
Utah	214	12.1	269	15.2	0.80
Vermont	82	14.5	91	16.0	0.90
Virginia	984	15.7	965	15.4	1.02
Washington	550	11.0	768	15.3	0.72
West Virginia	292	16.2	431	23.9	0.68
Wisconsin	491	9.9	823	16.6	0.60
Wyoming	85	18.5	111	24.1	0.77
	38,317	15.2	43.536	17.3	0.88
Total					

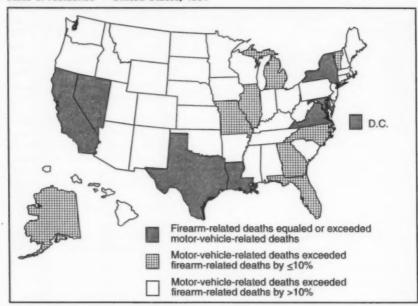
<sup>\*</sup>Crude death rates per 100,000; rates should not be compared between states because of differing age, sex, and race distributions.

Source: Mortality data tapes from CDC's National Center for Health Statistics for number of deaths; U.S. Bureau of the Census for annual population estimates.

<sup>&</sup>lt;sup>1</sup>These data may differ from estimates of the National Highway Traffic Safety Administration's Fatal Accident Reporting System because deaths occurring on both public and nonpublic roadways are included.

Firearm- and Motor-Vehicle-Related Injuries — Continued

FIGURE 2. Comparison of firearm- and motor-vehicle-related deaths, by decedents' state of residence — United States, 1991



associated with the development of a set of comprehensive and science-based interventions and policies (2); in contrast, there have been limited efforts to develop a systematic framework to reduce the incidence and impact of injuries associated with firearms.

Elements of the multifaceted, science-based approach to reduce mortality from motor-vehicle crashes have included public information programs, promotion of behavioral change, changes in legislation and regulations, and advances in engineering and technology. These strategies have resulted in safer vehicles (e.g., the addition of laminated windshields and interior padding), safer driving practices (e.g., reduced occurrence of alcohol-impaired driving and increased use of safety belts), safer travel environments (e.g., construction of safer highways and roads), and improved emegency medical services. Key elements of the science-based approach have included the establishment of a national data-collection system to routinely monitor motorvehicle-related deaths, identification of modifiable risk factors, design and implementation of preventive measures, and evaluation of the effectiveness of these measures. Since 1966, when the federal government identified highway safety as a major goal and subsequently established the National Highway Traffic Safety Administration to help reduce death and injury on the highway, the annual number of motor-vehiclerelated deaths in the United States has decreased, even though the annual number of vehicle-miles traveled has increased 114% (3).

Firearm- and Motor-Vehicle-Related Injuries - Continued

Based on the effectiveness of efforts to reduce motor-vehicle-related deaths, a multifaceted approach to reduce firearm-related injuries should include at least three elements. First, changes in behavior may be fostered by campaigns to educate and inform persons about the risks and benefits of firearm possession and the safe use and storage of firearms. Second, legislative efforts may be directed toward preventing access to or acquisition of firearms by specific groups that should not possess frams (e.g., felons and children) and toward regulating the storage, transport, and use of firearms. Third, technologic changes could be used to modify firearms and ammunition to render them less lethal (e.g., a requirement for childproof safety devices (i.e., trigger locks) and loading indicators) (4).

A multifaceted effort to prevent firearm-related injuries should emphasize the need to inform the public about the risks and benefits of access to firearms in a manner similar to the approach used to inform the public about the benefits of wearing safety belts and the dangers of drunk driving. For example, the public should be informed about recent findings indicating that the presence of a gun in a household is associated with an approximately fivefold increase in the risk of suicide and threefold increase in the risk of homicide for household residents (5,6). Such efforts also should convey the appropriate interpretations of epidemiologic patterns in firearm-related injuries. For example, the findings in this report indicate that rates of firearm-related deaths were substantially higher for black males than for white males—a pattern underscoring the disproportionate impact of firearm homicides on blacks. However, race is not known to be a risk factor for homicide victimization; instead, race-specific variations in the incidence of firearm-related deaths probably reflect differences in other factors (e.g., poverty) that increase a person's risk for becoming a victim of homicide (7).

Elements of the science-based approach used to prevent injuries associated with motor-vehicle crashes also should be applied to prevent firearm-related injuries. These elements should include establishment of a national firearm injury surveillance system to enable systematic collection of data about fatal and nonfatal firearm-related injuries and about the patterns of firearm ownership and use, and continued efforts to define more precisely the risks and benefits of gun ownership and the modifiable factors that increase the risk of death and injury from firearms. In addition, despite the implementation of a variety of approaches to the prevention of firearm-related injuries and death, efforts to evaluate these approaches have been limited (8–10) and underscore the need for continued assessment of the effectiveness of such intervention strategies.

Because highway safety has been a national priority since 1966, an estimated 250,000 motor-vehicle-related deaths have been averted. Despite this progress, efforts to reduce the burden of motor-vehicle-related injuries and fatalities must be sustained. In addition, adoption of a similar multifaceted, science-based approach should assist in decreasing the public health impact and societal burden of injuries resulting from use of firearms.

#### References

 Fingerhut LA, Jones C, Makuc D. Firearm and motor vehicle injury mortality—variation by state and race and ethnicity: United States, 1990–1991. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1994. (Advance data from vital and health statistics; no. 242). Firearm- and Motor-Vehicle-Related Injuries - Continued

 CDC/National Highway Traffic Safety Administration. Position papers from the Third National Injury Control Conference: setting the national agenda for injury control in the 1990s. Atlanta: US Department of Health and Human Services, Public Health Service, CDC, 1992.

January 28, 1994

- National Highway Traffic Safety Administration. Fatal Accident Reporting System, 1991: a review of information on fatal traffic crashes in the United States. Washington, DC: US Department of Transportation, National Highway Traffic Safety Administration, 1993.
- 4. US General Accounting Office. Accidental shootings: many deaths and injuries caused by firearms could be prevented—report to the Chairman, Subcommittee on Antitrust, Monopolies, and Business Rights, Committee on the Judiciary, House of Representatives. Washington, DC: US General Accounting Office, 1991; report no. GAO/PEMD-91-9.
- Kellermann AL, Rivara FP, Somes G, et al. Suicide in the home in relation to gun ownership. N Engl J Med 1992;327:467–72.
- Kellermann AL, Rivara FP, Rushforth NB, et al. Gun ownership as a risk factor for homicide in the home. N Engl J Med 1993;329:1084–91.
- Reiss AJ, Roth JA, eds. Understanding and preventing violence. Washington, DC: National Academy Press, 1993.
- Rossman D, Paul F, Pierce GL, McDevitt J, Bowers W. Massachusetts' mandatory minimum sentence gun law: enforcement, prosecution, and defense impact. Crim Law Bull 1980;61:150– 83.
- McDowall D, Loftin C, Wiersema B. A comparative study of the preventive effects of mandatory sentencing laws for gun crimes. J Criminal Law and Criminology 1992;83:378–94.
- Loftin C, McDowall D, Wiersema B, Cottey TJ. Effects of restrictive licensing of handguns on homicide and suicide in the District of Columbia. N Engl J Med 1991;325:1615–20.

### **Current Trends**

# Abortion Surveillance: Preliminary Data — United States, 1991

For 1991, CDC received data about legal induced abortions from 52 reporting areas (the 50 states, New York City, and the District of Columbia). This report presents preliminary data for 1991.

In 1991, 1,388,937 legal induced abortions were reported to CDC (Table 1), a decrease of 2.8% from the number reported in 1990 (1), and the number of live births decreased by 1.2%. As a result, the national abortion ratio declined from 345 legal induced abortions per 1000 live births in 1990 to 339 per 1000 in 1991. The national abortion rate (the number of legal induced abortions per 1000 women aged 15–44 years) remained stable at 24. As in previous years, 92% of women who had a legal induced abortion were residents of the state in which the procedure was performed.

Most women who obtained legal induced abortions in 1991 were aged <25 years, white, and unmarried (Table 1). When compared with women who obtained abortions in 1990, a slightly lower proportion of women who had abortions in 1991 had had no previously live-born infants (49.2% versus 47.5%, respectively). Curettage (suction and sharp) remained the primary abortion procedure (approximately 99% of all such procedures). As in previous years, more than half (52%) of legal induced abortions were performed during the first 8 weeks of gestation and approximately 89% during the first 12 weeks.

Reported by: Statistics and Computer Resources Br, Div of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: The number of legal induced abortions performed in the United States has remained relatively stable since 1980, varying each year by 5% or less. In 1991, the

Abortion Surveillance - Continued

TABLE 1. Reported number of legal induced abortions, abortion ratios,\* abortion rates,† and characteristics of women who obtained legal induced abortions — United States, selected years, 1972–1991

Characteristic Reported no. legal induced abortions Abortion ratio Abortion rate Residence In-state Out-of-state	1972 586,760 180 13	988,267 312 21	1,297,606 359 25	1985 1,328,570 354	1988 1,371,285	1,396,658	1990	1991
legal induced abortions Abortion ratio Abortion rate Residence In-state	180	312	359 25			1.396.658		
abortions Abortion ratio Abortion rate Residence In-state	180	312	359 25			1.396.658		
Abortion ratio Abortion rate Residence In-state	180	312	359 25			1.396.658		
Abortion rate Residence In-state	56.2		25	354			1,429,577	1,388,937
Residence In-state	56.2	21			352	346	345	339
In-state				24	24	24	24	24
In-state			- F	'ercentage	distributio	M1		
Out of state		90.0	92.6	92.4	91.4	91.0	91.8	91.8
Out-or-state	43.8	10.0	7.4	7.6	8.6	9.0	8.2	8.2
Age (yrs)								
≤19	32.6	32.1	29.2	26.3	25.3	24.2	22.4	21.0
20-24	32.5	33.3	35.5	34.7	32.8	32.6	33.2	34.2
≥25	34.9	34.6	35.3	39.0	41.9	43.2	44.4	44.8
Race	00			0010				1110
White	77.0	66.6	69.9	66.6	64.4	64.2	64.8	64.3
All others	23.0	33.4	30.1	33.4	35.6	35.8	35.2	35.7
Marital status	23.0	33.4	30.1	33.4	35.0	33.0	35.2	35.7
Married	29.7	24.6	23.1	19.3	20.3	20.1	21.7	20.3
Unmarried	70.3	75.4	76.9	80.7	79.7	79.9	78.3	79.7
No. live	70.3	75.4	70.9	00.7	/9./	79.9	76.3	/9./
births**								
0	49.4	47.7	58.4	56.3	52.4	52.2	49.2	47.5
1	18.2	20.7	19.4	21.6	23.4	23.6	24.4	25.2
2	13.3	15.4	13.7	14.5	16.0	15.9	16.9	17.4
3	8.7	8.3	5.3	5.1	5.6	5.7	6.1	6.5
≥4	10.4	7.9	3.2	2.5	2.6	2.6	3.4	3.4
Type of								
procedure								
Curettage	88.6	92.8	95.5	97.5	98.6	98.8	98.8	98.9
Suction	65.2	82.6	89.8	94.6	95.1	97.1	96.0	98.0
Sharp	23.4	10.2	5.7	2.9	3.5	1.7	2.8	0.9
Intrauterine			-				-	
instillation	10.4	6.0	3.1	1.7	1.1	0.9	0.8	0.7
Other <sup>11</sup>	1.0	1.2	1.4	0.8	0.3	0.3	0.4	0.4
Weeks of gestation								
SB SB	34.0	47.0	51.7	50.3	48.7	49.8	51.6	52.3
9-10	30.7	28.1	26.2	26.6	26.4	25.8	25.3	25.4
11-12	17.5	14.4	12.2	12.5	12.7	12.6	11.7	11.6
13-15	8.4	4.5	5.1	5.9	6.6	6.6	6.4	5.9
16-20	8.2	5.1	3.9	3.9	4.5	4.2	4.0	3.7
≥21	1.2	0.9	0.9	0.8	1.1	1.0	1.0	1.1

<sup>\*</sup>Per 1000 live births.

<sup>&</sup>lt;sup>†</sup>Per 1000 women aged 15-44 years.

<sup>&</sup>lt;sup>§</sup>Preliminary data.

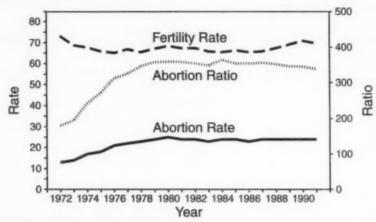
<sup>&</sup>lt;sup>¶</sup>Excludes unknown values. Percentage distributions are based on data from all areas reporting a given characteristic.

<sup>\*\*</sup>For 1972 and 1976, data indicate number of living children.

<sup>&</sup>lt;sup>††</sup>Includes hysterotomy and hysterectomy.

Abortion Surveillance - Continued

FIGURE 1. Fertility rate\* and abortion ratio<sup>†</sup> and rate<sup>§</sup>, by year — United States, 1972–1991



\*Live births per 1000 women aged 15-44 years.

<sup>†</sup>Number of legal induced abortions per 1000 live births.

<sup>5</sup>Number of legal induced abortions per 1000 women aged 15-44 years.

national ratio of abortions to live births was again lower than for any year since 1977, indicating that a greater proportion of pregnancies ended in a live birth (Figure 1) (2). The national abortion rate has fluctuated minimally since 1980 (Figure 1). Although the national fertility rate (live births per 1000 women of reproductive age) was slightly lower in 1991 than in 1990, it was higher than the rate for any other year since 1972 (3).

The total number of legal induced abortions was available for all 52 reporting areas. However, approximately 27% of abortions were reported from states that do not have centralized reporting; these areas could provide no information on the characteristics of women obtaining abortions. Because the number of states that report such information varies annually, temporal comparisons should be made with caution.

Abortion and birth statistics both are essential to provide estimates of pregnancy rates. In addition, abortion and pregnancy rates can be used to evaluate the effectiveness of family planning programs and programs to prevent unintended pregnancy. The use of such information for these purposes is constrained, however, because of limitations in the completeness of reporting by states of the number and characteristics of women who have legal induced abortions.

#### References

- 1. CDC. Abortion surveillance: preliminary data—United States, 1990. MMWR 1992;41:936-8.
- CDC. Abortion surveillance, 1977. Atlanta: US Department of Health and Human Services, Public Health Service, 1979.
- NCHS. Advance report of final natality statistics, 1990. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1993. (Monthly vital statistics report; vol 41, no. 9, suppl).

## **Emerging Infectious Diseases**

## Hantavirus Pulmonary Syndrome — United States, 1993

In June 1993, a newly recognized hantavirus was identified as the etiologic agent of an outbreak of severe respiratory illness (hantavirus pulmonary syndrome [HPS]) in the southwestern United States (1–3). Since this problem was recognized, sporadic cases have been identified from a wide geographic area in the western United States (2). This report summarizes the epidemiologic characteristics of HPS cases reported to CDC from May 1 through December 31, 1993.

Through December 31, 53 persons with illnesses meeting the surveillance case definition of HPS (2) have been reported to CDC. Patients' ages have ranged from 12 years to 69 years (median age: 31 years), and 32 (60%) were aged 20–39 years; 30 (57%) were male. Twenty-six (49%) were American Indians; 22 (42%), non-Hispanic whites; four (8%), Hispanic; and one (2%), non-Hispanic black. Thirty-two (60%) patients died; persons with fatal cases and persons with nonfatal cases were similar in age, sex, and race (Table 1).

Cases have occurred in residents of 14 states (Figure 1). Of the 34 (64%) persons who were residents of Arizona, Colorado, or New Mexico, illness occurred in 25 (74%) during April–July 1993 and in one before 1993 (Figure 2). In comparison, of 19 cases reported from other states, five (26%) had onset of illness during April–July 1993, and seven (37%) had onset before 1993. All patients either lived in rural areas or had visited rural areas during the 6 weeks before onset of illness.

The etiology of HPS was initially identified by serology, polymerase chain reaction (PCR), and immunohistochemistry (2). Additional cloning and sequencing of virus ribonucleic acid (RNA) from human autopsy tissues indicated that all three of the RNA segments of this new virus were unlike those of any known hantavirus; the new hantavirus is most closely related to the Prospect Hill strain of hantavirus (4.5).

TABLE 1. Characteristics of 53 persons reported with hantavirus pulmonary syndrome, by outcome — United States, May-December, 1993

		Dea	eths		
Characteristic	Total	No.	(%)	Relative risk	(95% CI*)
Age (yrs)					
<20	7	4	(57)	Referent	
20-29	14	7	(50)	0.9	(0.4 - 2.0)
30-39	18	14	(78)	1.4	(0.8-2.7)
≥40	14	7	(50)	0.9	(0.4-2.0)
Sex					
Female	23	13	(57)	Referent	
Male	30	19	(63)	1.1	(0.7-1.8)
Race					
American					
Indian	26	15	(58)	Referent	
Other <sup>†</sup>	27	17	(63)	1.1	(0.7-1.7)

<sup>\*</sup>Confidence interval.

<sup>&</sup>lt;sup>†</sup>Non-Hispanic white, Hispanic, and non-Hispanic black.

Hantavirus Pulmonary Syndrome — Continued

FIGURE 1. Number of reported confirmed cases of hantavirus pulmonary syndrome — United States, 1993

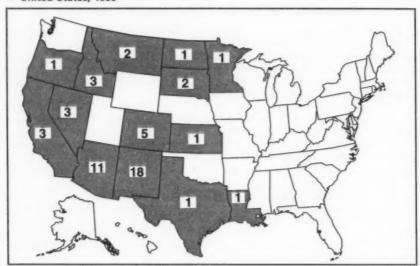
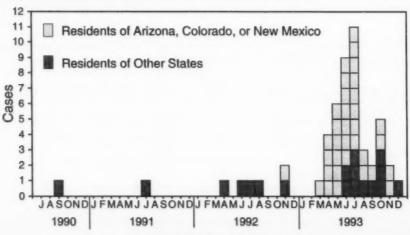


FIGURE 2. Number of confirmed cases of hantavirus pulmonary syndrome, by month and year of onset and by state — July 1990–December 1993\*



Month/Year of Onset

<sup>\*</sup>Does not include one case from 1980 reported in California.

Hantavirus Pulmonary Syndrome — Continued

In November 1993, the etiologic hantavirus associated with HPS was isolated from tissues of a deer mouse (*Peromyscus maniculatus*) trapped in New Mexico in June 1993 near the residence of a person with confirmed HPS. Lung material from this animal was twice passed in uninfected laboratory deer mice and then adapted to Vero E6 cell cultures. The genetic sequence of the 139-nucleotide PCR product from the isolated virus was identical to PCR products amplified from this rodent in June 1993 and from lung tissue of the associated patient. At the same time, the U.S. Army Medical Research Institute of Infectious Diseases isolated the virus from specimens from a person in New Mexico and from a rodent in California. Muerto Canyon virus has been proposed as the name for this virus, following standard conventions for naming zoonotic viruses after a nearby geographic feature.

Reported by: L Sands, DO, State Epidemiologist, Arizona Dept of Health Svcs. GW Rutherford, III, MD, State Epidemiologist, California Dept of Health Svcs. RE Hoffman, MD, State Epidemiologist, Colorado Dept of Health. E Sfakianaki, MD, Dade County Public Health Unit, RS Hopkins, MD, State Epidemiologist, Florida Dept of Health and Rehabilitative Svcs. R Perotto, MS, Acting State Epidemiologist, Div of Health, Idaho Dept of Health and Welfare. ML Fleissner, DrPH, State Epidemiologist, Indiana State Dept of Health. D Alfano, Kansas Dept of Health and Environment. L McFarland, DrPH, State Epidemiologist, Office of Public Health, Louisiana Dept of Health and Hospitals. MT Osterholm, PhD, State Epidemiologist, Minnesota Dept of Health. TA Damrow, PhD, State Epidemiologist, Montana State Dept of Health and Environmental Sciences. A Di-Salvo, MD, State Health Laboratory, Div of Health, Nevada State Dept of Human Resources. CM Sewell, DrPH, State Epidemiologist, New Mexico Dept of Health. LA Shireley, MPH, State Epidemiologist, North Dakota State Dept of Health and Consolidated Laboratories. D Fleming, MD, State Epidemiologist, State Health Div, Oregon Dept of Human Resources. KA Senger, State Epidemiologist, South Dakota State Dept of Health. DM Simpson, MD, State Epidemiologist, Texas Dept of Health. US Army Medical Research Institute of Infectious Diseases, Frederick, Maryland, Hantavirus Task Force, Special Pathogens Br. Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases, CDC.

Editorial Note: New clinical syndromes and infections associated with previously unknown pathogens often are recognized only after clinicians and public health officials become aware of clusters of cases. In May and June 1993, the recognition and reporting of 24 cases of severe respiratory illness among residents of the southwestern United States led to a multiagency response that included state and local health departments, universities, the Indian Health Service, the Navajo Nation Division of Health, and CDC. This response, in turn, resulted in the identification of HPS.

Disease associated with hantaviruses occurs primarily in otherwise healthy adults; however, HPS affects both sexes while infection by other hantaviruses affects predominantly males (6,7). The case-fatality rate for persons infected with Muerto Canyon virus has been substantially (more than 10 times) higher than that for persons infected with other hantaviruses (8). Factors accounting for the seasonal pattern of HPS have not been fully defined.

Although all confirmed cases of HPS in 1993 occurred in persons who resided west of the Mississippi River, the primary reservoir of the virus, the deer mouse, inhabits all areas of the United States except the southeast and Atlantic seaboard (9). Since January 1, 1994, one case of HPS has been confirmed in a resident of Indiana, and a possible case is under investigation in Florida. Regional variations in the occurrence of this problem and observed differences in the racial/ethnic and age distribution may reflect differences in 1) activities associated with exposure or transmission, 2) local surveillance and retrospective case finding, or 3) the prevalence of the virus in the

#### Hantavirus Pulmonary Syndrome - Continued

rodent host. For example, persons participating in agricultural activities near habitats of infected rodents are likely to be at greater risk for infection.

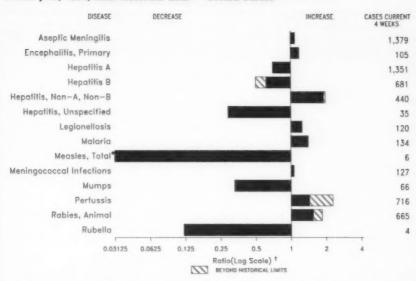
Recognition of the more geographically widespread occurrence of HPS emphasizes the need for physicians and other health-care providers to consider this problem in the differential diagnosis of adult respiratory distress syndrome. CDC and state and local health departments request that suspected cases of HPS be reported through state health officials (2).

The isolation of Muerto Canyon virus and the development of recombinant proteins may enable improved and more rapid diagnostic testing. CDC and the Association of State and Territorial Public Health Laboratory Directors are organizing training courses on hantavirus testing for public health laboratory personnel. The first course for public health laboratory personnel from states with confirmed cases of HPS will be conducted in Atlanta March 7–10, 1994. A purified recombinant necleoprotein antigen expressed in *Escherichia coli* (10) will be made available to participants and, as supplies permit, other interested laboratories. Additional information regarding these courses is available from CDC's Public Health Practice Program Office, telephone (404) 488–7675.

#### References

- 1. CDC. Outbreak of acute illness-southwestern United States, 1993. MMWR 1993;42:421-4.
- 2. CDC. Update: hantavirus pulmonary syndrome—United States, 1993. MMWR 1993;42:816-20.
- Nichol ST, Spiropoulou CF, Morzunov S, et al. Genetic identification of a hantavirus associated with an outbreak of acute respiratory illness. Science 1993;262:914–8.
- Spiropoulou CF, Morzunov S, Feldmann H, Sanchez A, Peters CJ, Nichol ST. Genome structure and variability of a virus causing hantavirus pulmonary syndrome. Virology 1994 (in press).
- Hjelle B, Jenison S, Torrez-Martinez N, et al. A novel hantavirus associated with an outbreak
  of fatal respiratory disease in the southwestern United States: evolutionary relationships to
  known hantaviruses. J Virol 1994;68:592–6.
- Feldmann H, Sanchez A, Morzunov S, et al. Utilization of autopsy tissue RNA for the synthesis
  of the nucleocapsid antigen of a newly recognized virus associated with hantavirus pulmonary
  syndrome. Virus Res 1993;30:351–67.
- Xu ZY, Guo CS, Wu YL, Zhang XW, Liu K. Epidemiologic studies of hemorrhagic fever with renal syndrome: analysis of risk factors and mode of transmission. J Infect Dis 1985;152:137– 44.
- Korpela H, Lähdevirta J. The role of small rodents and patterns of living in the epidemiology of nephropathia epidemica. Scand J Infect Dis 1978;10:303–5.
- McKee KT Jr, LeDuc JW, Peters CJ. Hantaviruses. In: Belshe RB, ed. Textbook of human virology. 2nd ed. St. Louis: Mosby Year Book, 1991:615–32.
- Hall RE. Peromyscus maniculatus. In: Mammals of North America. 2nd ed. New York: Wiley, 1981:670–83.

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending January 22, 1994, with historical data - United States



\*The large apparent decrease in reported cases of measles (total) reflects dramatic fluctuations in the historical baseline. (Ratio (log scale) for week three is 0.00704).

<sup>†</sup> Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — cases of specified notifiable diseases, United States, cumulative, week ending January 22, 1994 (3rd Week)

	Cum. 1994		Cum. 1994
AIDS*		Messles: imported	2
Anthrax		indigenous	2
Botulism: Foodborne		Plague	
Infant		Poliomyelitis, Paralytic <sup>§</sup>	
Other	1	Psittacosis	2
Brucellosis	2	Rabies, human	
Cholera		Syphilis, primary & secondary	837
Congenital rubella syndrome		Syphilis, congenital, age < 1 year	
Diphtheria		Tetanus	
Encephalitis, post-infectious	5	Toxic shock syndrome	10
Gonorrhee	16,248	Trichinosis	
Haemophilus influenzae (invasive disease)?	43	Tuberculosis	840
Hansen Disease	9	Tularemia	
Leptospirosis	3	Typhoid fever	11
Lyme Disease	70	Typhus fever, tickborne (RMSF)	5

\*Updated monthly; last update December 31, 1993.

Of 38 cases of known ege, 11 (29%) were reported among children less than 5 years of age.

No cases of suspected poliomyelitis have been reported in 1994; 3 cases of suspected poliomyelitis have been reported in 1993; 4 of the 5 suspected cases with onset in 1992 were confirmed; the confirmed cases were veccine associated.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending January 22, 1994, and January 23, 1993 (3rd Week)

		Assptic	Enceph	alitis			Hen	oatitis (V	/iral), by t		1	
Reporting Area	AIDS*	Menin- gitis	Primary	Post-in- fectious	Genor		A	В	NA,NB	Unapeci- fied	Legionel- losis	Lyme Disease
	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1993	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994
NITED STATES		213	19	5	16,248	22,400	655	351	185	14	63	70
EW ENGLAND		14	3		453	293	16	20	8	3	7	18
taine		1	1		3	5				+		
I.H.		2	*	*	-	3 5	-			*	-	
t. lass.	*	1 4	1	-	169	248	10	18		3	6	15
less. .l.		8	1	-	23	32	6	2			1	2
ionn.					258				*	*		
AID. ATLANTIC		16	1		513	2,490	17	11		1	2	23
Jpstate N.Y.		4			-		5	3				10
I.Y. City	*		*	*		1,147 611	5					
l.J. B.	*	12	i	-	513	732	7	8	4	1	2	
						3,869	59				28	
.N. CENTRAL	*	52 12	7 2	4	4,032 1,597	3,869 1,227	23				16	
Ohio nd.		12	2		510	357	24				5	
II.					864	1,424	*					
Mich.		18	5	4	1,025	457	12	27	25		7	
Wis.				*	36	404						
W.N. CENTRAL		20		*	517	932	13	7		*	12	
Minn.				*	148	79					4	
owa	-	12		*	34 137	116 397	1 3				2	
Mira. N. Diak		1			137	397	3	1			4	
N. Dak. S. Dak.	-					16						
Nebr.			*		-	52	8				6	
Kans.		7			198	266	1					
S. ATLANTIC		35	2		5,130	6,233					2	2
Del.				*	74	81	1	1 4	4 5	*	-	1
Md.		5	2	*	225	835				-		
D.C.		2			588 935	226 441		3				
Va. W. Va.		. 3	*	-	935	42	1		1 1			
W. Va. N.C.		. 8			1,455	1,585	3	3 33			1	
S.C.		. 2	*	*	736	762	3	3			1	
Ga.		. 2			4 000	817	13		6 18 9 2			
Fla.		- 13	*		1,098							
E.S. CENTRAL		- 20		1	2,593		15		6 62		4	
Ky.		. 9		1	190 421			3 2			2	
Tenn. Ale.		. 1			1,368			5 1	8 -			
Ale. Miss.		. 2			614						2	
W.S. CENTRAL		. 2			1,243				8 13		1	
W.S. CENTRAL Ark.		. 2			220	588	3 1	1				
La.					1,023	939	9		: .			
Okla.	,					189			7 13		1	
Tex.						1,610			1 -			
MOUNTAIN		- 3	-		361				2 16	2	4 2	
Mont.				*	10			5	3 5		2	
lidaho Who			*	*	4 2				1 2			
Wyo. Colo.		- 2			160	242	2	5	. 2	1		
N. Mex.					64	47	7 6	3 1	11 3		1	
Ariz.		- 1			24			18	2 2			
Utah					22 75				2 2 2		1	
Nev.											3	
PACIFIC		- 51	6		1,406	8 2,384			75 17 4 1		3	
Wash.				*	178			27	1 1			
Oreg.		- 41	5	-	1,058	5 1,967	7 30	01 (	85 13	3 8	2	
Calif. Alaska		- 1	1 1		40	0 3	6	8			-	
Hawaii		- 9			52	2 2	17	4	5 3	3 -		
Guam							5					
P.R.					27	7 2	18	*			*	
V.I.					1	3	8 2	2	1	: :		
Amer. Samoa							_	-				

C.N.M.I.: Commonwealth of Northern Mariana Islands

N: Not notifiable U: Unavailable C
\*Updated monthly; last update December 31, 1993.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending January 22, 1994, and January 23, 1993 (3rd Week)

			Measle	es (Rubi	oola)		Menin-				_	_			
Reporting Area	Malaria	Indig	enous	Impo	orted*	Total	gococcal	Mu	mps	,	ertussi	8		Rubell	
	Cum. 1994	1994	Cum. 1994	1994	Cum. 1994	Cum. 1993	Cum. 1994	1994	Cum. 1994	1994	Cum.	Cum.	1994	Cum.	Cum
UNITED STATES	22	1	2	1	2	8	146	19	39	19	1994	1993		1994	1993
NEW ENGLAND	4					3	15		1	2	133	128	1	2	6
Maine N.H.	1				-		3			2	6	40	-		-
Vt.		-					1		1	-	2	27		-	
Mass.							7	*	-	-	2	8			
R.I. Conn.	3	*						-		-	*	1			
		-			*	3	4	-		2	2	1		-	-
MID. ATLANTIC Upstate N.Y.	1	*				1	6	2	4	6	41	24			
N.Y. City			*	-	*		2			5	5	2	-	1	1
N.J.		-		-		1	*	-	-	-	-	-		-	
Pa.		-		*	-		4	2	4	1	36	14	*		1
E.N. CENTRAL	2				-		29	1			-	8	-		
Ohio Ind.	1	-					5		7	5 2	24	39	-	*	-
III.	*	*		-	*	-	8	-		-	18	2	-	*	
Mich.	1		-		-		9	-	3	-		8		-	-
Wis.		-			-		7	1	4	3	6	4	-		
W.N. CENTRAL	1						7		-	-	*	18		*	-
Minn.			*	*		-	,			*	5	7	*		1
lowa Mo.	1	~	*		*	*	-			-		1		-	
N. Dak.				-			3	*		-		4		-	1
S. Dak.	*	-	-		-		1	*		*	-	1			
Nebr. Kans.	*	-		-			i			-		1			*
	-		*	*	-	*	2				5		-	*	-
S. ATLANTIC Del.	5	*		*	*	2	30	9	11		22	2			-
Md.	2	*	*		*	-			-		-	-	-	-	1
D.C.	1			-	-	1	2		*	-	5	2			
Va. W. Va.	*	*	-					-		-	*	-	*	*	-
N.C.	1	-	*	*		-	1	-			1	-	-	*	
S.C.			-	*		*	6	7	8	-	12				-
Ga.	1	-		-	-		8		1	*	4	-	-	-	
Fla.	*	*	*	*	*	1	12	2	2	-	*	-		-	-
E.S. CENTRAL	*	*					23	-	-	1				-	*
Ky. Tenn.	*	*	-	-			3				2	2	-	~	-
Ala.		-			-	-	2	-	-	-		1	-	-	
Miss.				-		-	12	*	-	1	2	1		-	-
W.S. CENTRAL	-	-		1	1		2	-	-	-	-	-	-	-	*
Ark,		-		-	-		1	7	7	3	4	2	~		-
La. Okla.	-	*	*	*	~		-		-	-	-		*	~	*
Tex.		-		15	i		1	3	3	3	4	2			
MOUNTAIN	1	1	1			~		4	4	-	-	*	-	-	
Mont.			1		*		10	~	*	*	1	2			
daho	-	1	1	-	-	-	1	-	-	-	*	-		-	
Myo. Colo.	*	*	*		*		-					1	-		~
N. Mex.		-	*	-		3	1						-	-	-
Ariz.	-						1 4	N	N		1	*	*		-
Stals Nev.	1	-	*	-			2	-		-	-	1	*		
	-		*		~		-	*						-	7
ACIFIC Wash.	8	-	1	-	1	2	24		9	2	28	10	1	1	
Oreg.	-	-	-	-		*	2	-	1	2	5	-			3
alif.	4	-	1	-	1	1	2 20	N	N		1	-			1
Manka	:				-		20		6 2		21	7	1	1	1
tawaii	4	-	*	-	*	1	-	-			1	3		-	1
Buam IR.	*	U	-	U				U		U			U		
II.		-				26			-						
mer. Samoa						-		٠		*	*	*		*	
.N.M.I.	1	U	9	U				U		Ú		-		-	-

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending January 22, 1994, and January 23, 1993 (3rd Week)

Reporting Area	Syr (Primary 8	philis (Secondary)	Toxie- Shock Syndrome	Tuber	culosis	Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rebies, Animal
	Cum. 1994	Cum. 1993	Cum. 1994	Cum. 1994	Cum. 1993	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994
UNITED STATES	837	1,562	10	840	709		11	5	178
NEW ENGLAND	12	38		7	9		2	-	69
Maine N.H.	0	i	•		2	-	~		-
Vt.	-						-		7 2
Mass.	3	25			1		2	-	34
R.I. Conn.	9	11		7	6				-
MID. ATLANTIC	52	118	2	21	77				26
Upstate N.Y.		5	2		4				32
N.Y. City N.J.	42	111		19	52		*		
Pa.	10	2		2	10				20 12
E.N. CENTRAL	74	235	2	44	67		2		2
Ohio	18	66	1	8	12		-		-
Ind.	13 32	9	*	4	3		1	-	
Mich.	10	111	1	32	49		i		*
Wis.	1	28		-	3	-			2
W.N. CENTRAL	21	102	4	2	7		-		7
Minn.	4	2		-			-		
lowa Mo.	2 15	95	4		5		~	-	4
N. Dak.					9				
S. Dak. Nebr.	*		*				*		
Kans.		1		2	2	-	-		-
S. ATLANTIC	293	371		92	82				3
Del.	200	7		92	1		1	4	51
Md.	2	19		9	11		-		7
D.C. Va.	8	33		9	6				-
W. Va.		*			4	-	-		18
N.C. S.C.	111	99	-	-		*	-	4	6
Gn.	38 52	62 70		15 59	20		*	*	3
Fla.	42	76			40		1		16
E.S. CENTRAL	232	227		16	30			1	5
Ky.	9	25			8	-	-		
Tenn. Ale.	46 57	49 77		10		*	*		
Miss.	120	76		16	13	*		1	5
W.S. CENTRAL	141	351		21	1				2
Ark.	28	49		21			-		1
La. Okla.	113	126 37		*		*	*		
Tiex.		139			1		*		1
MOUNTAIN	12	5		29	7		2		5
Mont.	-			-			2		5
fdaho Wyo.	-			1	*		-		
Cafe.	7	3		1			1	*	-
N. Mux.				4		-			1
Ariz. Utah	3 2	2		17	7	*			5
Nev.	-	:		6			1		-
PACIFIC		115	2	608	429		4		
Wash.		4	7.	6	9		-		5
Oreg. Calif.	*	4	:	6	3		-		
Aleska		106	2	588	400		4		1
Hawaii	-	1		8	16			-	4
Guam	-				1				-
P.R.	13	36			-				
V.I. Amer. Samos	1	3			*			*	*
C.N.M.L				6			1		

#### TABLE III. Deaths in 121 U.S. cities,\* week ending January 22, 1994 (3rd Week)

	A	II Cau	ses, By	Age (Y	ears)		PBI		A	II Cau	ses, By	Age (Y	ears)		PBI <sup>1</sup>
Reporting Area	All Ages	≥65	45-64	25-44	1-24	<1	Total	Reporting Area	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	668	477	116	49	9 2	17	72	S. ATLANTIC	1,210	806	229	128	23	25	114
Boston, Mass.	174	109	33	21		9	23	Atlanta, Ga.	162	96	37	23	2	4	6
Bridgeport, Conn. Cambridge, Mass.	34 26	24	7	2	-	1	2 3	Baltimore, Md.	157	91	35	26	5	-	22
Fall River, Mass.	38	35	2	1			3	Charlotte, N.C. Jacksonville, Fla.	185	132	21	16	2	5 2	11
Hartford, Conn.	56	41	8	4	2	1	4	Miami, Fla.	73	39	15	12	3	3	21
Lowell, Mass.	35	24	8	2	2 1 - 3 Norfolk, Va.	56	36	9	3	2	6	7			
Lynn, Mass.	17	12	3	2			-	Richmond, Va.	78	52	12	10	1	3	6
New Bedford, Mass		18	3	3	:	-	3	Savannah, Ga.	59	41	9	7	1	1	10
New Haven, Conn. Providence, R.I.	49	31 34	11	4	1	2	5	St. Petersburg, Fla. Tampa, Fla.	59 235	174	13 43	3	1 2	1	5
Somerville, Mass.	5	3	2		0		3	Washington, D.C.	235 U	U	Ü	15 U	ű	Ú	26 U
Springfield, Mass.	56	41	10	2	1	2	7	Wilmington, Del.	40	35	4	1			
Waterbury, Conn.	39	30	6	2	1		3								
Worcester, Mass.	75	53	15	4	1	2	13	E.S. CENTRAL Birmingham, Ala.	1,054	736 132	200	67	31	20	89
MID. ATLANTIC	2.444	1.651	442	255	65	31	144	Chattanooga, Tenn.	104	93	49	2	4	9	13
Albany, N.Y.	49	38	3	5	2	1	4	Knoxville, Tenn.	124	88	24	9	2	1	13
Allentown, Pa.	28	20	7	1			2	Lexington, Ky.	U	U	U	Ŭ	Ü	U	U
Buffalo, N.Y.	115	83	25	3	3	1	6	Memphis, Tenn.	287	190	63	22	10	2 2	34
Camden, N.J.	46	35	6	4	1	*	5	Mobile, Ala.	96	61	18	12	3	2	5
Elizabeth, N.J.	14	12 36	7	2	1	*	6	Montgomery, Ala.	113	84	18	5	3	3	12
Erie, Pa.§ Jersey City, N.J.	53	34	11	7	-	1	1	Nashville, Tenn.	123	88	24	0	3	2	12
New York City, N.Y.		888	255	181	38	18	62	W.S. CENTRAL	1,836	1,236	342	161	61	36	184
Newark, N.J.	44	21	12	6	2	3		Austin, Tex.	84	57	19	8	2		15
Paterson, N.J.	32	17	5	6	4	-		Baton Rouge, La.	33 68	25	5	2	1	1	3
Philadelphia, Pa.	196	124		23	8	1	15	Corpus Christi, Tex. Dallas, Tex.	280	47 181	50	35	2	6	11
Pittsburgh, Pa.9	54	41	11	1	1	*	6	El Paso, Tex.	84	51	17	9	1	6	19
Reading, Pa. Rochester, N.Y.	147	116	19	7	3	2	17	Ft. Worth, Tex.	91	65	14	6	5	1	8
Schenectady, N.Y.	39	25	13	1			"	Houston, Tex.	515	343	92	50	22	8	52
Scranton, Pa.§	U	U	Ü	U	U	U	U	Little Rock, Ark.	78	47	23	6	1	1	6
Syracuse, N.Y.	76	61	11	2	1	1	9	New Orleans, La.	76	41	12	12	4	7	20
Trenton, N.J.	50	38		2	*	2	1	San Antonio, Tex. Shreveport, La.	314 72	224 50	52 16	21	13	4	28
Utica, N.Y. Yonkers, N.Y.	25 44	22 34		2 2	1	1	4	Tulsa, Okla.	141	105	28	3	3	2	15
E.N. CENTRAL	2,361	1,570		218	109	57		MOUNTAIN	971	695	166	72	23	15	103
Akron, Ohio	76	61	8	5	1	1	210	Albuquerque, N.M.	102	66	19	13	3	1	6
Canton, Ohio	48	38	6	3		1	5	Colo. Springs, Colo.		40	9	1			8
Chicago, III.	519	209		113	70	26		Denver, Colo.	110 225	81 147	14 55	18	4	3	8
Cincinnati, Ohio	138	98		9	4	3	25	Las Vegas, Nev. Ogden, Utah	19	12	5	1	5		1
Cleveland, Ohio	146	102		11	5	2	10 17	Phoenix, Ariz.	222	167	30	15	2	8	30
Columbus, Ohio Dayton, Ohio	137	110		5	2	9		Pueblo, Colo.	14	12	2	*			2
Detroit, Mich.	247	162		23	12	5		Salt Lake City, Utah		65	15	7	7	2	12
Evansville, Ind.	40	31		2		1		Tucson, Ariz.	133	105	17	9	1	1	15
Fort Wayne, Ind.	80	61		4	1	2	7	PACIFIC	2,103	1,508	304	195	44	46	249
Gary, Ind.	19	12		4	- :		2	Berkeley, Calif.	22	20	1	1		-	4
Grand Rapids, Mich Indianapolis, Ind.	1. 76 77	52 58	17	4	1	2	9	Fresno, Calif.	155	111	18	13	4	9	30
Madison, Wis.	32	20		1	2	2		Glendale, Calif.	23	22	1		*	1	2
Milwaukee, Wis.	141	108	27	5	-	1	18	Honolulu, Hawaii Long Beach, Calif.	77 86	58 62	13	5	3	3	10
Peoria, III.	33	22		*	1		5	Los Angeles, Calif.	390	263	58	49	11	4	21
Rockford, III.	63	47		3	2	1		Pasadena, Calif.	34	28	2	3	1		4
South Bend, Ind.	59	46		4	1	3	20	Portland, Oreg.	195	142	32	13	1	7	25
Toledo, Ohio Youngstown, Ohio	152 77	127			1	3		Sacramento, Calif.	213	150	33	21	7 2	2	34 23
					40			San Diego, Calif. San Francisco, Calif.	156	108	27	28	2	3	8
W.N. CENTRAL Des Moines, Iowa	966	732			18	21		San Jose, Calif.	210	162	32	10	3	3	36
Des Moines, iowa Duluth, Minn.	42	37			2	1	2	Santa Cruz, Calif.	42	37	2	2	1		8
Kansas City, Kans.	40	28			1	4	2	Seattle, Wash.	179	126	21	22	5	5	13
Kansas City, Mo.	143	10€	28	6	4	- 1	10	Spokane, Wash.	67	46	12	2	3	4 2	10
Lincoln, Nebr.	56	41			1	1		Tacoma, Wash.	89	69	11	6	1	2	12
Minneapolis, Minn.	192	149			2	7		TOTAL	13,613	9,411	2,360	1,184	383	268	1,254
Omaha, Nebr.	118	101			4	2 5									
St. Louis, Mo. St. Paul, Minn.	66	55			3	-	8								
Wichita, Kans.	89				1		. 7								

<sup>\*</sup>Mortelity data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not

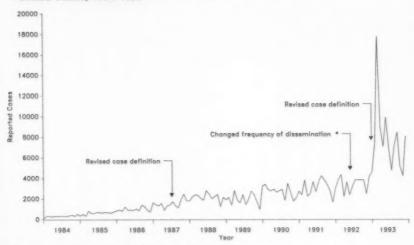
more. A death is reported by the place of its occurrence and by the week that the death certificate was filled. Peter deaths are not included.

Presumonia and influences in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 8 weeks.

Total includes unknown eges.

U: Unavailable.

FIGURE II. Acquired immunodeficiency syndrome cases, by 4-week period of report — United States, 1984-1993



\*Change to reflect Notice to Readers, Vol. 41, No. 18, pg. 325.

FIGURE III. Tuberculosis cases, by 4-week period of report — United States, 1984-1993

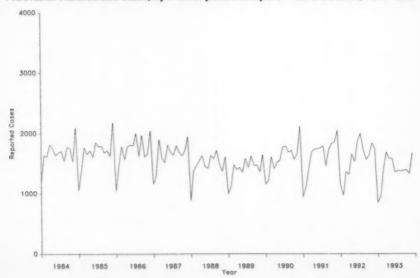


FIGURE IV. Gonorrhea cases, by 4-week period of report — United States, 1984-1993



FIGURE V. Syphilis cases, by 4-week period of report — United States, 1984-1993



The Morbidity and Mortality Weekly Report (MMWR) Series is prepared by the Centers for Disease Control and Prevention (CDC) and is available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; telephone (202) 783-3238

The data in the weekly MMWR are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday. Inquiries about the MMWR Series, including material to be considered for publication, should be directed to: Editor, MMWR Series, Mailstop C-08, Centers for Disease Control and Prevention, Atlanta, GA 30333; telephone (404) 332-4555.

All material in the MMWR Series is in the public domain and may be used and reprinted without special permission; citation as to source, however, is appreciated.

Director, Centers for Disease Control and Prevention David Satcher, M.D., Ph.D. Deputy Director, Centers for Disease Control and Prevention Walter R. Dowdle, Ph.D.

Acting Director, Epidemiology Program Office Barbara R. Holloway, M.P.H.

Editor, MMWR Series Richard A. Goodman, M.D., M.P.H. Managing Editor, MMWR (weekly) Karen L. Foster, M.A. Writers-Editors, MMWR (weekly) David C. Johnson Patricia A. McGee Darlene D. Rumph-Person

Caran R. Wilbanks

☆U.S. Government Printing Office: 1994-733-131/83054 Region IV

SERI SERI SOOIV RORF BRUNE OR AC IN D HMEC SUBS ROF

SALS LMS Penalty for Private Use Official Centers for Disease Control Public Health Service HEALTH AND HUMAN SERVICES DEPARTMENT OF Atlanta, Georgia 30333 and Prevention (CDC) Business

POSTAGE & FEES PAIL FIRST-CLASS MAIL Permit No. G-28 PHS/CDC

Redistribution using permit imprint is illegal

HHS Publication No. (CDC) 94-8017

